

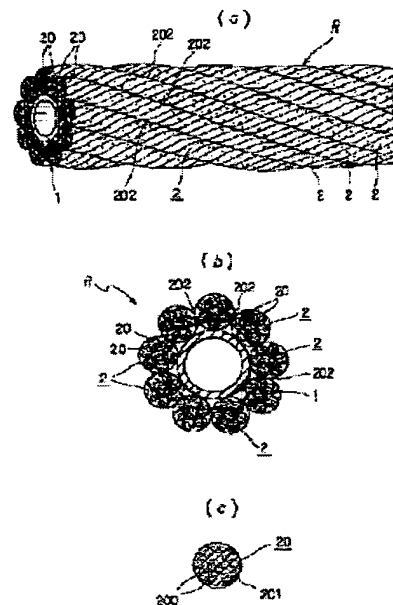
**LOCK BOLT FOR TUNNEL WORK**

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**Abstract of JP11131999**

**PROBLEM TO BE SOLVED:** To simplify construction of a wide cross section tunnel by a method wherein a lock bolt driven in a ground and a bedrock to the back through a tunnel excavation wall surface is formed such that a twist linear material or a single linear material of non-metallic high performance fibers having anisotropy in a strength is extended along the outer periphery of a cylindrical hose for integral formation. **SOLUTION:** A plurality of strands 2 formed of non-metallic high performance fibers having anisotropy in a strength are arranged at the periphery of a central cylindrical hose 1. The strands 2 are twisted together at a given twist angle, and integrally formed such that the strands 2 and the cylindrical hose 1 are prevented from relative movement. The strand 2 is formed such that a plurality of wires 20 formed of the non-metallic high performance fibers having anisotropy in strength are twisted together. The wires 20 and the strands 2 are a composite substance formed such that the non-metallic high performance fibers are impregnated with thermosetting resin as a matrix and cured. The wire 20 is formed such that a bundle of a number of non-metallic high performance fiber filaments 200 is impregnated with thermosetting resin 201 and covered with a desiccant to produce prepreg.



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